

REMARKS/ARGUMENTS

Applicant has received the Office Action dated December 31, 2007, in which the Examiner rejected claims 1-11 and 13-38 under 35 U.S.C. § 103(a) as being allegedly unpatentable over *Wexler* (U.S. Pat. No. 6,497,480, hereinafter "*Wexler*") in view of *Warner et al.* (U.S. Pat. No. 6,677,007, hereinafter "*Warner*").

With this Response, Applicant has amended claims 6, 13, 14, 23, 25 and 29.

I. CLAIM REJECTIONS UNDER 35 U.S.C. § 103(a)

The Office Action takes the position with respect to the ink receiving layer, that *Wexler* explicitly teaches an ink receiving layer "that comprises polyvinyl alcohol as a hollow particulate (column: 6, line: 30–40), and it is know[n] that the glass transition temperature of poly vinyl alcohol is 85 degree C." Applicant respectfully traverses. There is no teaching at column 6, lines 30–40 or anywhere else in *Wexler* of hollow particulates in an ink receiving layer. To the contrary, *Wexler* discloses (*e.g.*, col. 3, lines 22–29; col. 4, lines 5–8) an ink-retaining layer composed of particles and binder, and discloses (*e.g.*, at col. 6, lines 30–40) a two layer ink-receiving structure in which the first layer comprises alumina and crosslinked PVA binder. The second ink-receiving layer contains alumina, a colloidal latex dispersion, PVA and surfactant. Even at col. 3, lines 37–49, where various organic particles are disclosed, there is still no teaching or suggestion that the organic particles in the ink-retaining layer of *Wexler* could be hollow particles. In contrast, Applicant's claims 1–11 and 13–38 require an ink receiving layer comprising hollow particulates. Examples of such hollow particulates are disclosed at page 7, lines 24–27, for instance in Applicant's specification, and include Ropaque HP-543, HP-643, HP-1055 and OP-96 (Rohm-Haas) and Dow HS-3000NA and HS-2000NA (Dow Chemical).

In the Office Action, it is said that *Warner et al.* teaches (at col. 8, lines 35–40) an imaging layer (ink receiving) comprising hollow particulates having a void volume from 20-80%, preferably 30 to 60%. It is also said that *Warner et al.* teaches that the hollow particles are 1 to 25 μm in size (col. 6, lines 10–15). The Office Action takes the position that it would have been obvious to modify the

media sheet of *Wexler* with the teachings of *Warner et al.* in order to have bleed free high quality printed images. Applicant traverses these assertions. It must be noted that *Warner et al.* describes particles in the imaging layer as being in an amount and size sufficient to assist in providing a porous structure to the imaging layer (col. 5, lines 56–58). The amount and size of a group of particles would primarily relate to the porosity of the interstitial spaces (*i.e.*, the spaces between the particles) of the ink receiving layer of *Warner et al.*

Even more importantly, at col. 6, lines 26–43, *Warner et al.* states as follows:

Because the base medium is a solid film without any discernable porosity, the present imaging layer comprising particulates with the binder and the solvent-soluble multivalent cationic salts in the coating formulation inherently provides a porosity for the imaging layer. While not being bound by theory, it is believed that a porous coating layer is formed from the evaporation of solvent from the coating formulation, leaving a disorganized collection of particulates bound by the binder within which the solvent-soluble multivalent cationic salts reside. The pores are able to quickly imbibe the ink providing a quick drying medium. This porous structure may be facilitated by the use of particulates that are irregular in shape (e.g. non-spherical). The imaging layer is not unlike the popular confection of "peanut brittle" with the binder holding together the particulate "peanuts" and enormous porosity in the binder "brittle" formed by solvent evaporation.

Clearly, it is not the particles themselves, but the porous binder ("brittle"), that is said to imbibe the ink in *Warner et al.* In the above-quoted passage it can be readily seen that *Warner et al.* does not contemplate hollow particles when describing the particulate "peanuts" of the porous imaging layer. At col. 5, lines 61–64, *Warner et al.* gives examples of suitable particulates such as starch, silica, zeolites, clay articles, insoluble silicates such as calcium silicate, alumina, talc and titanium dioxide. It would be understood by one of skill in the art that those materials are not the same as the hollow particulates of Applicant's ink receiving layer, as exemplified by the above-identified Ropaque and Dow hollow plastic pigment particles.

Moreover, in view of the overall teaching of *Warner et al.* of an imaging layer comprising solid particles held together in a porous binder matrix, it is

apparent at col. 8, lines 36–40 that *Warner et al.* is describing the interstitial void volume of the imaging layer (*i.e.*, of the "porous binder brittle"). Likewise, it is apparent at col. 6, lines 10–15 that *Warner et al.* is describing the mean particle size of the solid particles, *i.e.*, the "peanuts." Even if one of skill in the art were to modify the ink receiving layer of *Wexler* to contain the particles disclosed by *Warner et al.*, the resulting product would still not contain hollow particulates. For at least these reasons, the combined teachings of *Wexler* and *Warner et al.* do not provide all of the limitations of claims 1–11 and 13–38.

II. CLAIM AMENDMENTS

Claims 6 and 14 is currently amended to correct a typographical error by which "hollow particulate" was inadvertently repeated.

Claim 13 is currently amended to expressly recite in a) ii) "comprising internal voids," and to recite in b) "said voids," in order to improve claim form and for better internal consistency of wording.

Claim 23 is currently amended to recite "said ink receiving layer comprises voids between said hollow particulates" and to recite "said voids," in order to provide better internal consistency of wording in claim 23, and for better consistency of wording with claim 13. Claims 25 and 29 are similarly amended for reasons of consistency of wording. Support for these amendments is implicit or explicit in the original claims, and elsewhere in the specification.

III. AMENDMENT TO THE SPECIFICATION

The paragraph contained in lines 5–14 of page 8 is currently amended to correct a typographical error at the beginning of the second line, where "to" was inadvertently omitted between "hollow-particulate" and "binder ratio." Support for this amendment is at line 6 of the same paragraph, and elsewhere in the specification.

In the course of the foregoing discussions, Applicant may have at times referred to claim limitations in shorthand fashion, or may have focused on a particular claim element. This discussion should not be interpreted to mean that the other limitations can be ignored or dismissed. The claims must be viewed as a whole, and each limitation of the claims must be considered when determining

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the patentability of the claims. Moreover, it should be understood that there may be other distinctions between the claims and the cited art which have yet to be raised, but which may be raised in the future.

Applicant respectfully requests reconsideration and that a timely Notice of Allowance be issued in this case. It is believed that no extensions of time or fees are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 C.F.R. § 1.136(a), and any fees required (including fees for net addition of claims) are hereby authorized to be charged to Hewlett-Packard Development Company's Deposit Account No. 08-2025.

Respectfully submitted,

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